CONCLUSION.

The useful quantities of *P. radiata* just described are at once an asset and a danger. 'Pinus radiata' is now almost synonymous with high production and rapid returns on investment. However, these properties must be exploited with discrimination and should not cause us to be impatient of other species, as natural causes may yet greatly reduce its range. Every effort should therefore be made to develop species capable of replacing *P. radiata* in its varied and important role in Southland and Otago.

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**PINUS RADIATA: A SPECIES OF ULTIMATE MINOR SIGNIFICANCE IN SOUTH ISLAND FOREST PRACTICE**

J. T. HOLLOWAY

(Paper read at Annual Meeting)

A map of the South Island is presented on which five broad 'radiata capability' land-use classes have been delimited.

1. **BROWN LAND.** Zero capacity for commercial growth of *radiata* forests. Land wholly exceeding 2,000 ft. in altitude.
2. **MAGENTA LAND.** Zero capacity for commercial growth of *radiata* forests. Semi-arid intermonts of Canterbury and Otago. Sub-marginal in respect to rainfall and winter frost, marginal in respect to altitude.
3. **GREEN LAND.** The land of high rainfall regions to the west of the main divide. Essentially permanent indigenous forest land. Sites and soils suited to *radiata* of strictly limited extent, principally, (a) local soil enclaves required for agriculture and (b) topographically difficult terrain in the Inangahua and Grey Valleys. No significant stands of *radiata* established to date and the greater portion of all present planting of species other than *radiata*.
4. **BLUE LAND.** Land within the Conservancies of Canterbury and Otago and wholly exceeding an altitude of 1,000 ft. *Radiata* can be grown on Blue Land but must be sited with extreme care. In any specific forest established, or to be established, on Blue Land, *radiata* must remain a secondary species. Land within the altitudinal range of 1,000-2,000 ft. in Nelson Conservancy and on Banks Peninsula has a higher growth potential for *radiata* and is included in Class (5) land, below.
(5) WHITE LAND. Land left unshaded on the map includes essentially all the land suited to large scale culture of radiata. Territorial limitations will immediately be evident.

The White Land includes the greater part of all South Island agricultural land and, together with the Blue Land, the bulk of all improved or improvable hill pasture. Population pressures must, increasingly, forbid further significant alienation, to forest, of White Land or of reasonably fertile Blue Land. Only the poorest of the White Land soils and poor Blue Land soils are likely to become available for State afforestation and such soils must largely prove marginal or sub-marginal for radiata culture, (e.g. Eyrewell and Balmoral). Large scale re-afforestation, employing radiata, would appear possible only in the Moutere Gravels and on lands already acquired in other districts.

Greater attention should, therefore, be paid to the selection and silviculture of species suited to poor Blue Land soils and for afforestation of Brown Land. Radiata would seem destined, eventually, to be a species of primary significance only in so far as it is employed as a species of farm wood-lots and miscellaneous local body plantations.

THE LIMITATIONS OF RADIATA IN EXOTIC STATE FORESTS IN CANTERBURY

R. M. MARTIN.
(Paper read at Annual Meeting)

Emphasis placed in recent years on our dwindling resources of indigenous softwoods has tended to throw new light on the silviculture of exotic forests. The very magnitude of forest establishment in the exotic field has created in the minds of many people the impression that the problem of meeting future timber demands is well in hand. In point of fact this is only the initial steps and the more important task, that of protecting and tending our forests, lies before us and with a steadily increasing population it is likely that further large areas must be planted if the future timber demand is to be met by home production.

Canterbury’s consumption of timber today is over 16 million cubic feet of which 10 million cubic feet is imported mainly from the West Coast. By the year 2000, G. N. Calvert estimates that the population will more than double and on this basis the annual timber requirements will be for at least 32 million cubic feet. Production from all forest areas including farm woodlots is estimated optimistically to be in the vicinity of 13 million cubic feet so that an annual deficit of 19 million feet will have to be met. Rationed supplies from